

Transit-Oriented Development (TOD): Canadian Case Studies

INTRODUCTION

By examining 10 recent examples of transit-oriented developments (TODs) in cities across Canada, these case studies provide lessons for future TODs. By interviewing key players and surveying occupants, the study examines the factors contributing to successful projects and the challenges faced by both private developers and public agencies in carrying them out.

BACKGROUND

As Canada becomes increasingly urbanized, cities and metropolitan regions are faced with the challenge of maintaining and enhancing livability and sustainability in the face of often-rapid population growth. One of the most important aspects of maintaining livability in urban development is the link between land use and transportation. Land-use mix and density affect the viability of transit and other transportation systems and, on the other hand, the availability of transit affects land use and density patterns.

The concept of focusing compact, mixed-use development around transit nodes has emerged as a key strategy to manage the effects of growth, create more livable communities and reduce automobile use, thus reducing greenhouse gas emissions, congestion and costly road expansion.

Many older, more established neighbourhoods and urban centres developed before the Second World War demonstrate successful integration of transportation infrastructure and services into community design. These places, characterized by pedestrian-oriented routes, a range of land uses and parcel sizes, a mix of residential densities and, well-established transit nodes, support a range of efficient and reliable transportation options.

This form of development, often referred to as Transit-Oriented Development (TOD), is now experiencing a resurgence in cities across Canada, the U.S. and elsewhere. TODs are showing promise as one method to boost transit use and contain urban sprawl while contributing to healthy, walkable neighbourhoods.

WHAT IS TOD?

Peter Calthorpe, an urban planner and one of the pioneering advocates of this approach to development, coined the term "transit-oriented development" to describe...

"...moderate and high density housing, along with complementary public uses, jobs, retail and services... concentrated in mixed-use developments at strategic points along the regional transit systems."

(Calthorpe, P. *The Next American Metropolis*, 1993).

TODs are located within an easy walk that is 10 minutes or 800 m of a transit station or major stop in environments that encourage walking. (see Figure 1) TODs can occur at a variety of scales. They can be both large-scale, master-planned projects, or incremental redevelopment on a parcel-by-parcel basis around an existing transit stop or node. The case studies look at a range of project types and scales as well as transit types.

Residential development around transit nodes can be served by a number of transit types, including:

- rapid-express bus;
- light rail transit (at-grade);
- grade-separated rail, underground (subway, metro) and elevated (SkyTrain);
- commuter rail; and
- commuter ferry.



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Figure 1 Collingwood Village in Vancouver is one of the TOD case studies. The SkyTrain line is shown in yellow with the station in the upper left. Lower building forms act as transitions adjacent to the existing neighbourhood, while the highest density is concentrated closest to the SkyTrain station.

METHODOLOGY

The research team conducted a literature review, selected potential projects, conducted interviews, assembled graphics and wrote the case studies. From 25 potential developments, the team selected 10, based on the following criteria: within a 10-minute walk of a transit station or major stop, mixed-use, pedestrian-oriented and have transit-supportive densities. It was important that the selected developments cover a range of transit types and locations, from both urban and suburban sites and from across Canada. They also cover a range of building heights and densities, depending on the urban context.

Each case study features interviews with the following key players:

- The transit authorities, for their views on regional growth and transit development as well as the relationship between land use and transit planning.
- The developers, to determine their motivation for pursuing the project, as well as costs, profitability, success factors (for example, municipal support), challenges (for example, neighbourhood opposition) and how these challenges were overcome.

- The municipal planners, to determine the City's planning objectives for the node, municipal involvement in providing walk-cycle connections, zoning and other regulatory issues, financial issues (for example, tax incentives, cost sharing, fee exemptions) and neighbourhood input.

The research team worked with a market research firm, the Mustel Group, to survey occupants of the 10 case studies, to shed light on their motivations for choosing to live there, level of satisfaction, travel patterns and demographic information. The consultants conducted the pre-tested survey by telephone, using phone directories to create the survey sample.¹

CASE STUDY DESCRIPTIONS

Time has two condo towers with 258 apartment units and seven townhouses with retail and a community centre at-grade. It is across the road from the SeaBus ferry terminal in North Vancouver's town centre, taking riders to downtown Vancouver. It was developed by Esplanade Capital Ventures Limited and Seagate Ventures Ltd. and completed in 2005.



Figure 2 Time, North Vancouver: At-grade retail and lower building form near the street with high-rise condos set back. Streetscape treatment and central courtyard provide pedestrian-oriented public amenity space. The SeaBus terminal and downtown Vancouver are in the background.

¹ The fact that so many occupants have only cellular phones and no land lines significantly limited the sample size. As a result, only six case studies achieved the targeted response rate (at least 30 households per case study or 20 per cent of the households in each case study) despite exhaustive attempts to reach non-responding households. These include 33 households that responded in Time (Vancouver), 32 in Port Credit Village (Mississauga), 30 in Village de la Gare (Montréal), 45 in Metropole (Ottawa), 31 in Collingwood Village (Vancouver) and 20 in Les Cochères de la Gare (Montréal).

Collingwood Village is a master-planned community in Vancouver with 16 buildings (four-storey townhouses and six- to 26-storey apartments) providing 1,917 condo units and 783 rental units with retail and community facilities at-grade. A SkyTrain station is located in a corner of the village. It was developed by Concert Properties and completed in 2006.



Figure 3 View of Collingwood Village, Vancouver, showing central street and variety of building forms and heights.

Short Street is a five-storey, 78-condo unit development with retail at-grade steps from a planned express bus stop in the suburban community of Saanich, near Victoria. Completed in 2006, the developer, Short Street Ventures/Darrell Johnson Construction, provided occupants with free bus passes for two years and a car-sharing program.



Figure 4 Building height and form is compatible with the surrounding area in the Short Street project, in Saanich, a suburban community in the Victoria area.

The Bridges is a master-planned urban village, located in one of Calgary's oldest neighbourhoods. The total project will include 1,575 mid-rise, multi-family units with significant commercial and retail uses. A light rail transit station is located just south of The Bridges. It is being developed by the City of Calgary Corporate Properties & Buildings from 2000-2011 and includes many builders who purchased sites through a tendering process. The case study focuses on the Acqua and Vento buildings, a sample project which was built by Windmill Development Group Ltd. from 2005-2007. The project includes 44 townhouses located in two buildings above street-oriented retail.



Figure 5 Street-oriented retail below condo townhouses in the Vento project in The Bridges, Calgary.

Port Credit Village has 225 mid-rise condo apartments up to six-storeys, 168 townhouses and 18 live-work townhouses with at-grade retail and office uses. It is in the Port Credit urban village in Mississauga and is 400–800 m from the GO Transit station (commuter rail) with service to downtown Toronto. It was developed by FRAM Building Group and Slokker Canada (FRAM/Slokker) and completed in 2005.



Figure 6 Mixed land use and housing types designed around public amenity spaces, including a waterfront park and path in Port Credit Village, Mississauga. Note the location of the commuter rail station in the background.

Equinox has two 37-storey towers with 689 condos and some retail at grade. It is steps from a light rapid transit station in Scarborough, a suburban area of the City of Toronto. Developed by Goldman Group and built by Monarch Construction, it was completed in 2005.



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Figure 7 The Equinox towers with pedestrian bridge (right) to transit station (centre) in the Scarborough area of Toronto.

Metropole has a 153-condo, 32-storey tower with 68 townhouses, adjacent to a Transitway station (rapid bus) in an urban village in Ottawa. It was developed by Minto Developments Inc. in 2004.



Figure 8 Mix of townhouses and a high-rise building adjacent to the Transitway station in Metropole, Ottawa.

Les Cochères de la Gare is a 94-condo unit, four-storey building steps from a commuter rail station in Sainte-Thérèse, an old town in the Montréal area. It was developed by Habitations Viagères and complete in 2005.



Figure 9 Les Cochères de la Gare, near Montréal, with public path along railway corridor in foreground.

Village de la Gare is partially built, with 1,000 homes at completion, in single-detached, duplex, townhouse and three-storey, multi-unit buildings with commercial uses and a school planned. It is 200–750 m from the commuter rail station in Mont-Saint-Hilaire, a small town about 40 km from downtown Montréal. It is being developed by Groupe Cooke Bombardier Lesage, Inc. (Groupe CBL) from 2002–2012.



Figure 10 Pedestrian-oriented streetscape free of garages and driveways in Village de la Gare, near Montréal.

Portland Hills is in a suburban area of Dartmouth, part of the Halifax region. It has 423 single-detached homes, 296 townhouses and 440 units in four-storey apartment buildings with retail, a school and a rapid bus station. It was developed by Clayton Developments from 2004–2008.



Figure 11 Portland Hills, Halifax, is an example of a transit node surrounded primarily by single-family homes in a suburban context.



Figure 12 High-quality public open space and pedestrian links throughout The Bridges, Calgary.

Findings

1. What TOD design features were integrated into the projects?

The literature review indicates that TODs should include the following features:

- convenient and pleasant pedestrian connections;
- high-quality public spaces;
- transit-supportive densities with the densest forms near the transit station;
- a mix of land-uses, including attractions for transit rides, like convenient retail; and
- unobtrusive parking—requirements should reflect the potential for reduced auto use.

All projects are well within 800 m (at their furthest point) of the transit station, which puts them all within the 10-minutes people are generally willing to walk, and half the projects are less than 100 m away.

The routes are generally on paths separated from roads or on pedestrian-oriented streets, except in two developments where the pedestrian environment is pleasant *within* the project site but not on busier roads between it and the transit station. In spite of this, many of the transit stations are uninviting, utilitarian designs. Improvements could be made to the way that the transit stations interface with the rest of the neighbourhood.

All but one project exceed the minimum residential density of 22 units per hectare (uph) that is considered necessary to support viable light rail, and most of the projects have over 100 uph. The lowest densities are in suburban or exurban areas, distant from urban centres. Half the projects feature a variety of housing types, including low- and high-rise and single- and multi-family dwellings, with the highest densities located closest to the transit stations. All but two of the projects are mixed-use; however, those two developments are located within mixed-used areas.

2. Was access to transit and other amenities a motivational factor for developers and occupants?

All developers² felt that transit proximity helped market the project to occupants or was a motivation in choosing to build in that location. Some said it was a major motivation and resulted in a price premium (for example, Collingwood Village, Time, Equinox).

Proximity to transit was the number one motivating factor among surveyed occupants for three out of six³ projects (Time, Collingwood, Village de la Gare). When asked if it had a strong or some influence, the lowest response was 45 per cent on one of the case studies and as high as 85 per cent on others.

The projects generally had excellent access to urban or natural amenities or both (for example, vibrant, mixed-use neighbourhoods, waterfronts, trails). Proximity to amenities was the prime motivator for surveyed occupants of two out of six projects (Port Credit Village and Metropole), and the second factor for another two (Time, Village de la Gare). Most of the developers saw the excellent local amenities as a major motivation for their investment decision.

3. Were the projects a financial success for the developers?

All but one developer said the project met their profit expectations, but the one who said it did not meet expectations (Short Street) attributed it mainly to construction price increases and delays during land assembly. Profit expectations were exceeded in The Bridges and Time.

4. Were the projects initiated by municipalities? Were the projects compatible with local or regional land-use/transportation plans?

All but one of the projects fit the municipality's goals for compact, mixed-use, pedestrian-oriented development around transit nodes. The one exception would be the Portland Hills project where the region essentially retrofitted rapid transit services into an already planned lower density suburban area.

In four cases (Time, The Bridges, Collingwood Village and Les Cochères de la Gare) the municipality initiated the projects, assembling and/or rezoning public land parcels they targeted for TOD near transit stations and selling those properties to developers with specific design criteria. In another case, Village de la Gare, the developer, transit authority and municipality were partners in the development of the transit station and neighbourhood. The other projects were driven by private developers, but supportive of overall municipal goals for TOD near existing transit stations, which facilitated approvals and cooperation between parties. In one case (Portland Hills) the transit station was added after the residential development had already begun.

² In Portland Hills, the transit station was built after the first phase was already being developed. But the developer indicated that buyers in subsequent phases were motivated by the proximity to the transit station.

³ Only six of the 10 case studies captured a sufficient sample size on the occupant survey. See footnote 1 for the survey response rates. More findings from the survey are presented later in this article.

Table 1 TOD features in the case studies

Project	Pedestrian connection to station (distance, form and quality)	Housing mix	Other land uses	Gross res. density (uph)*	Parking
Time, North Vancouver	- 325 m - excellent from Time to SeaBus terminal - one link is all off-road, with a footbridge over a road, amenities and landscaped spaces along the route - activities, retail make the SeaBus terminal a "place" - bus station is underground and uninviting	- mostly high-rise condos with some townhouses	- grocery store, drug store, community centre - non-res. m² are 75% of the total site area.	322	- 1.3 spaces per res. unit, underground - 261 non-res. spaces, mostly underground with some surface
Collingwood Village, Vancouver	- 25-700 m - pedestrian-oriented streets (trees, traffic calming, small blocks with mid-block connectors) and paths through well-designed open spaces - station uninviting	- 4-storey townhouses/ garden apts. and 6- to 26-storey condo and rental apartments	- grocery store, drug store, school, community centre, daycare, other retail, neighbourhood policing centre - m² are 6% of the total site area	239	- 1.35 spaces per res. unit in phase I and 1.04 in phase 2 - all underground
Short Street, Saanich	- 100 m (to major stop) - pedestrian-friendly within the site but auto-oriented arterials beyond the site	- mid-rise condos	- retail - m² are 1.4% of the total site area	157	- 1.1 spaces per res. unit, underground - 38 commercial, surface, used by res. after hours
The Bridges (Acqua and Vento), Calgary	- The Bridges: 100 to 600 m - Acqua and Vento: up to 575 m - excellent - paths through parks and pedestrian-oriented streets with amenities, traffic calming - pedestrian bridge over arterial road	- The Bridges: mix of multi-family units (3-12 storeys), townhouses and live/work units - Acqua and Vento: townhouses	- The Bridges will be 10% street level commercial/ retail and 32% open space - make the station a retail node - Acqua and Vento commercial m² are 65% of the total site area	-avg. 320 close to station, avg. 210 close to existing neighbourhood	- 1.25 spaces per res. unit, underground - 1 space /7 m² net floor area for food services - on-street parking was accepted for ground-floor non-res., which reduced parking need by 25% - Acqua has 19 commercial spaces, Vento has 9
Port Credit Village, Mississauga	- 400-800 m - excellent within the site (landscaped paths and well-designed open spaces) - beyond site, along sidewalks and busier roads	- low- and mid-rise multi-family condos, townhouses, live/work units	- office and retail - non-res. m² are 5% of the total site area	39	- 1.5-1.7 spaces per multi-family unit - 3+/townhouse - 70 commercial, surface and underground
Equinox, Toronto	- 25 m - excellent - path and pedestrian bridge	- high-rise condo	- retail - m² are 6% of the total site area	543	- 1.1 spaces per unit, all underground, except 6 surface
Metropole, Ottawa	- 200 m - good - sidewalks on residential streets and off-road path	- high-rise condos and townhouses	- none but located in a mixed-use neighbourhood	79	- 1 space per res. unit in high-rise, underground (plus some surface) - 1 to 2 spaces per unit for townhouses (driveways and garages)
Les Cochères de la Gare, Sainte-Thérèse	- 90 m - excellent - off-road path	- mid-rise condos	- none but in mixed-use small town	134	- 1 space per res. unit, surface - hidden in interior courtyard
Village de la Gare, Mont-Saint-Hilaire	- 200-750 m - good - paths and pedestrian-friendly streets with sidewalks	- detached homes, duplexes, townhouses, low-rise apartments	- will include commercial uses, community facility and a school	30 uph multi-family and 20 uph single-family	- 1.5 spaces per res. unit, surface - 444 surface at Park & Ride
Portland Hills, Dartmouth	- 50-500 m - extensive recreational trails to station and sidewalks on res. streets and arterial	- single-detached homes, townhouses and low-rise apartments	- retail - m² are 7% of the total site area	10.6	- 1.4 spaces per multi-family unit, ½ below-, ½ above-grade - 2 per single-family unit, garage and driveway - 35 commercial stalls and 231 Park & Ride, surface

* Gross residential density is calculated as the number of residential units divided by the site area.

Research Highlight

Transit-Oriented Development (TOD): Canadian Case Studies

Time and Collingwood Village: Transit authority investments must support the growth plan of the Greater Vancouver Regional District (GVRD) which focuses growth around regional centres that are compact, complete and offer transportation choice in areas that are well served by transit. In Time, the City of North Vancouver assembled and rezoned land parcels in the declining industrial area around the SeaBus terminal for transit-oriented re-development by private developers. In Collingwood Village, the City of Vancouver created a master plan, rezoned the land and negotiated with the developer to include specific TOD features (see details below for both).

Short Street: The Capital Regional District (greater Victoria) regional growth strategy focuses growth in eight transit-oriented nodes (walkable, compact, mixed-use). This project is in one of them and the District of Saanich sees it as a good fit with their objectives for the node.

The Bridges (Acqua and Vento): The Bridges is being developed as a master-planned TOD by the City of Calgary, selling serviced lots to private developers (see details below). Numerous policies and guidelines have been adopted to integrate land use and transportation throughout Calgary, including the City's TOD guidelines from 2004 for areas within 600 m of a transit station. There has recently been a modest amount of intensification in a few light rail transit (LRT) stations in Calgary. But due to the intensification efforts at The Bridges node, ridership at this station had increased by 30 per cent from its former use as a hospital, well before build-out.

Port Credit Village: City of Mississauga policies encourage transit-supportive densities and land uses near GO Transit commuter train stations. In Port Credit, which has a mixed-use, historic town centre, the commuter train station has been in place for many years and the adjacent area has gradually been intensifying as developers initiate projects.



Figure 13 Commercial uses adjacent to historic main street of Port Credit, Mississauga.

Equinox: This development fits well with Scarborough's Official Plan direction for intensification around the City Centre and LRT station. The area has seen significant increases in population and ridership, which have led the transit authority and municipality to review options for adding capacity to the busy line.

Metropole: The project was initiated by a private developer and is consistent with City of Ottawa plans and policies, which encourage higher density near a transit node. The transit station had been in place for several years and the adjacent area has gradually been intensifying.

Village de la Gare: This master-planned TOD was developed hand-in-hand with the commuter train station. The transit authority and Town of Mont-Saint-Hilaire, near Montréal, bought the land for the station from the developer, worked with the developer on the site planning of Village de la Gare, and shared infrastructure costs.

Les Cochères de la Gare: The Town of Sainte-Thérèse, near Montréal, produced a development concept plan to redevelop the disused industrial area around the commuter rail line in concert with the station. The municipality adopted zoning changes to support transit-oriented development, and purchased and serviced the lots before re-selling them to developers.

Portland Hills: Portland Hills was not originally planned as a TOD. While the Phase I neighbourhood was being developed privately, the Halifax Regional Municipality's transit authority purchased the site from the developer for the rapid bus station. It located the new route and station on the basis of existing transit demand, land availability and plans for new residential development along the corridor.

5. Was municipal support an important factor in the project success?

All the projects involved the developer and the municipality working co-operatively. Generally, the developers felt that municipal support was a key success factor. In most cases, the municipality provided flexibility on parking and zoning. In others it provided marketing of the area and cost sharing on infrastructure and amenities. In return, they required the developers to provide certain amenities, such as pedestrian links to the transit station. In some cases, municipal requirements for amenities increased costs and affected profits.

Time: The City of North Vancouver assembled several land parcels it owned in a former industrial area in decline and targeted higher density, mixed-use redevelopment for the area adjacent to a transit hub. It rezoned and contracted with private companies to develop these parcels. It required the developer of Time to build a community centre, retail, pedestrian links to the terminal and public parking but allowed rezoning and a density increase. It also conducted public consultation and marketed the project across the Vancouver region.

Collingwood Village: The City of Vancouver created a station area plan with extensive public input over eight years, which led to rezoning the site from industrial use and

establishing specific design features. It conducted further public consultation as it negotiated an amenity package and design features with the developer, including a community centre and policing centre. The municipality reduced the parking requirement from 1.75 spaces per unit to 1.34 and, in later phases to 1.04 spaces per unit. It also partnered with the developer to build the rental housing and contributed \$5 million to the cost of amenities.

Short Street: The District of Saanich partnered with the developer and the transit authority to create a two-year free bus pass system for occupants. This and other TOD efforts by the developer, such as a car share program, led the municipality to reduce parking by 21 per cent to 1.1 spaces per unit. The municipality approved rezoning and supported changes to engineering standards, such as narrower streets and wider, pedestrian-friendly sidewalks, although obtaining engineering approvals on these non-standard features was difficult and time consuming to achieve.

The Bridges (Acqua and Vento): The City of Calgary obtained the planning approvals, established design guidelines and built the infrastructure, and is selling fully serviced sites to private sector builders, including the builder of Acqua and Vento. The municipality built the following infrastructure: a large park; a pedestrian-friendly network of streets and paths; a pedestrian bridge and plaza at the LRT station; new smaller scale access points into the neighbourhood; and new utilities. There were challenges in obtaining approval from some municipal departments for non-standard roads, streetscapes, open space, landscaping, and parking. As a result, a customized infrastructure committee was struck to make decisions regarding the non-standard features to ensure that technical experts are involved in creating and accepting the new standards.



Figure 14 The pedestrian bridge over a busy arterial road adjacent to The Bridges, Calgary, is part of a pedestrian-friendly network of routes and open spaces.

Port Credit Village: The City of Mississauga and the developer shared the costs of a public trail and extensive park along the waterfront. The City saw the project as an opportunity to redevelop a vacant industrial site, open the waterfront to public use, and provide a TOD showcase with transit-supportive densities, mixed-uses, pedestrian links and public spaces.



Figure 15 Public square surrounded by retail and other land uses at Port Credit Village, Mississauga

Equinox: In exchange for an increase in density, the developer was required to build and pay for a public pedestrian bridge (see Figure 7) and walkway to the transit station, at a cost of \$270,000 and contribute \$70,000 for a playground in a public park. The City of Toronto allowed an amendment to the Official Plan and zoning to permit the residential use and higher density the developer was proposing.

Metropole: The City of Ottawa was flexible on zoning and parking, requiring only 1 space per unit in buildings that are within 400 m of a transit station. It worked with the developer and adjoining property owners to establish a pedestrian path through the site to the station.

Les Cochères de la Gare: According to the developer, the Town of Sainte-Thérèse played a key role in assuring the success of the development. The municipality created a development plan for the area, rezoned, purchased and serviced the lots before selling them to developers.

In addition, it developed a linear park and paths along the rail line (see Figure 9) and conducted public consultation on the area plan which helped the individual developers achieve community acceptance for their individual projects.

Village de la Gare: The developer, the Town of Mont-Saint-Hilaire and the transit authority shared costs for the infrastructure, site preparation and station development and worked together on design guidelines. Cost sharing negotiations were complicated and lengthy. The municipality assisted with marketing, and lowered parking requirements from 2.0 to 1.5 spaces per unit. They also required no parking for the commercial area around the station.

Portland Hills: While not originally designed as a TOD, the Halifax Regional Municipality negotiated with the developer to include transit-supportive strategies, such as pedestrian connections to the transit station and denser development closer to the station.

6. Was neighbourhood opposition a barrier and if so, how was it overcome?

In all of the projects, the City conducted public consultation, working with the developers and the neighbourhood residents collaboratively to address concerns. In about half the cases (e.g. Time, Collingwood Village, The Bridges, Les Cochères de la Gare), extensive consultation on an area plan smoothed the way to community acceptance of individual projects.

Several of the municipal planners experienced a push/pull between neighbourhood concerns and intensification goals. For example, neighbours in lower density areas may oppose medium- to high-density housing even though it is desirable from a TOD-perspective. So the developers worked toward achieving that density in a way that the neighbourhood supported, such as transitioning to lower densities adjacent to existing neighbourhoods. In only two cases, some lingering concerns were noted about overall changes to the neighbourhood.

Time: The City consulted the public on the plan for redevelopment of the Lonsdale area. Some residents opposed the Time proposal due to density, views and height but supported it after the developer reduced the building heights. Now it is seen as a positive contribution to the neighbourhood.

Collingwood Village: Extensive communication with neighbourhood groups throughout the process resulted in strong neighbourhood support. A well-conceived plan to phase the development over 16 years helped to ease the transition from light industrial to residential use. The developer worked with the community to find creative ways to incorporate the community's concerns and long-term objectives. Density increases were negotiated in exchange for significant community amenities and design features. For example, although the development is denser than the surrounding neighbourhood, it has achieved a high level of compatibility with its surroundings through appropriate scale transitions and urban design initiatives. These include mid-rise podiums around high-rise towers and stepping the towers back from the street.

Short Street: The project builds on a plan by the municipality to intensify the area. There was no opposition, as there were few existing residents nearby.

The Bridges (Acqua and Vento): Extensive public consultation by the municipality helped resolve the initial outcry over the hospital relocation, which were decisions made by the Province. Consultation on the area concept plan and requirements for builders to comply with the design guidelines created a high degree of certainty for local residents regarding what would be built. As a result, none of the phase one or two development permits was appealed. The highest density was situated around the transit station, with lower buildings located along the edges of the development for better integration with existing neighbourhoods.



Figure 16 Individual entrances from the sidewalk and the building set-back give this six-storey building in The Bridges a human scale.

Port Credit Village: The previous owner's proposal met significant opposition over heights and density, which were required to be reduced. After reviewing the proposal, the municipality initiated a district plan review that attracted considerable public input. A long and involved public input process followed to create a workable plan, involving meetings, workshops and open houses. The municipality and community worked with the current developer to produce a master plan, which influenced a new proposal that was ultimately approved. The proposal generally was supported by the community, although there are some lingering concerns over densification of the broader area.

Equinox: The municipality met with an advisory committee and held an open house with the developer to gather public input. The municipality sought revisions to the proposal based on concerns which included the lack of parkland and direct pedestrian access to the transit station. Since completion, most people recognize that the project animates the area and provides "eyes on the park."

Metropole: The neighbours opposed the original proposal for two mid-rise towers, so the developer changed the plan to one high-rise and townhouses, then did sun and traffic impact studies to alleviate concerns and gain project approval. Because of lingering community concerns over densification of the broader area in general, a community plan for the area was later initiated.

Village de la Gare: Neighbourhood concerns over the project scale and traffic were addressed by including a wide boulevard from the station to existing roads. Concerns about site contamination and mixed-use were alleviated by providing information to the community.

Les Cochères de la Gare: The Town of Sainte-Thérèse helped build support for the project through public consultations held on the plan for the area. Initially concerns about heights and densities were voiced by residents but detailed planning and development schemes helped relieve these concerns.

Portland Hills: The municipality coordinated community input. The main concern of the neighbours was that areas adjacent to existing single-family homes should have homes of similar density and type. Through a lengthy development agreement process, the developer changed the plan accordingly and the municipality approved it, even though a higher density would have been more appropriate for a TOD.

7. How do selling prices and rents for dwellings compare with local averages?

When compared with local average selling prices or rents for the same type of unit for new construction in the same year, the cost of a dwelling in four of the developments was higher than average. However, the cost of a dwelling was the same as the local average in four developments (Collingwood Village, Short Street, Time and Village de la Gare), and lower in two (Equinox and Les Cochères de la Gare).

8. Who are the occupants?

The key findings in a survey of occupants for six of the case studies are as follows⁴.

- The respondents' household incomes were higher than the Census Metropolitan Areas (CMA) average in four projects. In two, (Les Cochères de la Gare and Collingwood Village), a higher percentage of respondents were in the middle income range.
- Five developments had smaller household sizes than the CMA average, and one had the same household sizes (Village de la Gare).
- Respondents in four developments were younger than the CMA average, and older in two developments (Metropole and Port Credit Village). In both of these developments, proximity to transit was not one of the main motivational factors for choosing that location.

9. What are the occupants' travel patterns?

- Household car ownership rates were higher than the CMA average in four developments, lower in one (Collingwood Village) and the same in another (Time), although fewer households in that project owned two cars.
- Significantly more respondents took transit to work than the CMA average in four developments, of which ridership was double the average in two developments (Village de la Gare and Time) and triple the average in one development (Collingwood Village). Transit to work rates were slightly lower than the CMA average in Les Cochères de la Gare, but higher than the local town average. It was half the average among respondents in Port Credit Village, where our survey indicates that

respondents were wealthier and older than average and there were fewer people and more cars per household. Most respondents in that development cited proximity to amenities, like shopping, parks and trails as their main motivation for choosing that location.

- All respondents who took transit to work, walked to the station in five developments, and most did so in one development (Village de la Gare).
- A small percentage of respondents changed their travel habits since moving there, usually taking transit to work more and walking for shopping more than they did before. Although transit to work rates were significantly higher than average, most respondents may have chosen that location to make their existing travel patterns more convenient. The most change was noted in Time, where 21 per cent took transit to work more than before and 60 per cent walked for shopping more.

10. Are occupants satisfied and what trade-offs did they make?

- Satisfaction rates were high in all developments. Among the features identified, satisfaction rates were highest for design, appearance and size of their home, neighbourhood amenities and neighbourhood design and appearance. Even features with the lowest satisfaction rates (parking and unit cost) rated over 75 per cent.
- All respondents in all developments said the path to the transit station was somewhat or very convenient and pleasant. When asked about specific features that make the path pleasant, safe sidewalks along the street, trees and other landscaping along the route and walking paths that are separate from the street were given the highest satisfaction rates. The lowest satisfaction rates were for parks and public amenities along the route.
- Most respondents in every development said their previous dwelling was of a lower density than their current one. Most also said they paid more for this dwelling than for their previous one. Roughly one-third of these respondents said they accepted a higher price because of access to transit, one-third because of access to neighbourhood amenities and half because of design/architectural features of the unit itself⁵.

⁴ Only six of the ten case studies captured a sufficient sample size on the occupant survey. See footnote 1 for details on the survey response rates.

CONCLUSIONS

When it comes to TOD, one size does not fit all. These case studies show that TODs can include a wide range of housing types from high-rise towers to single-family homes, depending on the urban context and the marketplace. All but one proved to be financially successful for the developer and demonstrate that a successful TOD model can have a broad spectrum of dwelling types and densities, including starter and high-end, single-family and high-rise dwellings. These case studies also show that TODs can be small or large in scale, ranging from 0.45 ha (1.1 acres) in Short Street to 73 ha (180 acres) in Village de la Gare.

The municipalities played a strong area-planning role in many of the developments, by identifying the opportunity to create a TOD around a transit station, encoding this in a plan, zoning land for this purpose and attracting developer interest. This sent a clear signal to developers that this is the kind of development the municipality wants. Even the projects that were developer-initiated involved co-operation between the municipality and the developer, for example, through flexibility on parking and zoning and cost sharing on amenities and infrastructure.

While the projects owe part of their success to close collaboration between the developer and municipality, only a few involved the local transit authority in a meaningful way. Village de la Gare is one example where the train station is a focus of development. The Bridges is another example – pedestrian connections and safety improvements were made to the adjacent LRT station as part of the overall project.

Often, the design of the transit station is not well co-ordinated with the TOD. This is because the transit authority is usually responsible for station area design and development, which tends to happen in advance of the neighbourhood developing. However, the Vancouver area is seeing greater levels of co-operation between the transit authority, the local municipalities and developers in co-ordinating all aspects of urban design which is leading to more integrated designs. More integration with transit station design would assist in making pedestrian connections even more accessible, convenient and attractive. It also may allow for truly innovative transit initiatives, such as the free transit passes offered to all residents in the Short Street development.

Effective public involvement is essential to the success of the development. While neighbourhoods are often initially reluctant to support proposed changes in density and mixed-use, public participation throughout project development generally satisfied public concerns. Municipal planning staff played a key role in gathering public input and finding solutions that were acceptable to both developers and the community.

The occupants surveyed tended to have higher incomes and fewer people per household than the area average, with some exceptions. For most of the developments, respondents owned more cars than the area average, yet used public transit to get to work significantly more. Respondents tended to be younger than average, although they were older in two projects. A small percentage of respondents changed their travel habits since moving to the TOD, usually taking transit to work and walking to shopping more than they did before. Most live in a denser form of housing than their previous location, even though they paid more for it, citing location most frequently as their motivation. This and the financial success of these TOD projects demonstrates that it is possible to attract a market previously foreign to higher density living due to the benefits of the development. High-quality design, neighbourhood character and proximity to amenities and transit are key factors in attracting residents.

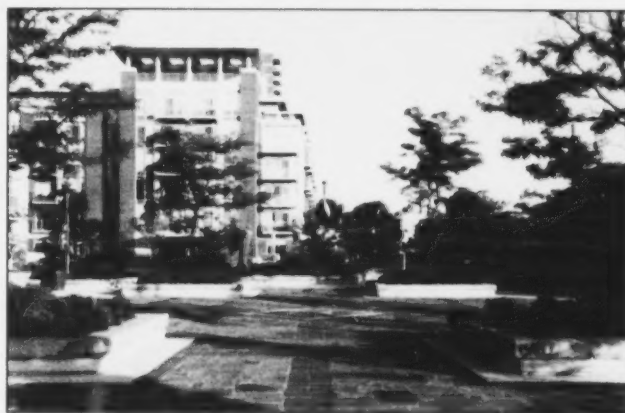


Figure 17 High-quality urban design, public open spaces and pedestrian networks throughout Port Credit Village add to the attractiveness of higher density housing. Occupants of the TOD case studies generally were willing to trade off low-density housing for quality design and great location.

⁵ Respondents could have picked more than one answer.

Research Highlight

Transit-Oriented Development (TOD): Canadian Case Studies

In many cases it was difficult to implement non-standard street design features, such as planting trees along narrower streets. This required collaboration between different municipal departments, resulting in extra time and effort, as did reductions in parking requirements. All the case studies featured improvements to the pedestrian environment and pedestrian connections to the transit station.

To see the individual case studies, go to http://www.cmhc.ca/en/inpr/su/sucopl/sucopl_007.cfm. This series of case studies is part of a CMHC series of more than 60 case studies on residential intensification, brownfield redevelopment, greyfield redevelopment and TOD.

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